

## A New Species of the Spider Genus *Aculepeira* (Araneae: Araneidae) from Japan

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谷川明男<sup>1)</sup>: 日本産 *Aculepeira* 属の 1 新種

**Abstract** A new species of the spider genus *Aculepeira* (Araneidae) is described on the basis of the materials obtained from Mt. Higashi-nupukaushinupuri, Hokkaido, Japan. The species closely resembles *Aculepeira carbonarioides* (KEYSERLING, 1892), but can be distinguished by the shape of the male palp. The genus is new to the Japanese fauna.

In the summer of 1993, Ms. Mayumi MATSUDA discovered an interesting spider which made an orb-web among rocks at block stream in Mt. Higashi-nupukaushinupuri, Hokkaido. She gave me an opportunity to examine the specimen. The spider resembles the species of the genus *Aculepeira* CHAMBERLIN et IVIE, 1942 in general appearance. As the specimen was immature, its taxonomical position could not be determined exactly. I was anxious to examine the specimens of mature spiders. In 1994, Ms. MATSUDA collected two adult females and one young male of the spider from the same locality. Furthermore, she bred the young male spider and succeeded to bring it up to adult. Thus, mature spiders of both sexes were obtained. After an examination of these materials, I came to the conclusion that the species is a member of the genus *Aculepeira* and is new to science. It will be described in this paper.

Under the genus *Aculepeira*, about twenty species have been described from Palaearctic, Nearctic and Neotropical regions (BRIGNOLI, 1983; PLATNICK, 1989, 1993). No species of the genus was known from Japan up to the present.

All the type specimens designated in this paper are deposited in the collection of National Science Museum (Natural History), Tokyo.

Before going further, I wish to express my hearty thanks to Dr. Hirotsugu ONO, National Science Museum (Natural History), Tokyo, for his constant guidance and revising the manuscript of this paper. My sincere thanks are also due to Ms. Mayumi MATSUDA, Hokkaido, for her offering valuable specimens used in this study.

Following abbreviations are used in this paper: MOA, median ocular area; NSMT, National Science Museum (Natural History), Tokyo.

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*Aculepeira matsudae* sp. nov.

(Figs. 1–5)

*Type series.* Holotype: 1♂, Mt. Higashi-nupukaushinupuri, 1,000–1,100 m alt., Shikaoi-chô, Hokkaido, 23–VIII–1994 (subadult), 21–IX–1994 (adult after breeding), M. MATSUDA leg. (NSMT–Ar 3184). Paratypes: 2♀♀, same locality and collector as for the holotype, 7–VII–1994, (NSMT–Ar 3185–3186).

*Description* (based on the holotype ♂ and paratype 1♀; variations are given in the parentheses). Measurement (in mm). Total length ♂ 5.76, ♀ 8.60 (7.50–8.60); carapace length ♂ 3.04, ♀ 3.28 (3.13–3.28); width ♂ 2.56, ♀ 2.62 (2.60–2.62); abdomen length ♂ 3.40, ♀ 5.59 (4.50–5.59), width ♂ 3.12, ♀ 4.47 (3.40–4.47). Length of legs of the holotype ♂ and paratype 1♀ as shown in Table 1.

Table 1. Measurement of leg segments of *Aculepeira matsudae* sp. nov. (in mm; ♂/♀).

Leg	Tarsus	Metatarsus	Tibia	Patella	Femur	Total
I	1.36/1.32	3.44/3.16	3.20/2.88	1.36/1.40	3.58/3.64	12.94/12.40
II	1.00/1.16	2.34/2.76	2.40/2.44	1.22/1.32	3.04/3.24	10.00/10.92
III	0.84/1.00	1.68/1.72	1.34/1.44	0.86/1.00	2.22/2.36	6.94/7.52
IV	1.06/1.04	2.88/2.78	2.22/2.36	1.08/1.26	3.08/3.44	10.32/10.88

Male. Carapace length/width 1.19; MOA length/width 0.92, anterior width/posterior width 0.90. Chelicera with 4 promarginal and 3 retromarginal teeth. Labium length/width 0.75; sternum length/width 1.13. Length of leg I/carapace 4.26. Male palp as shown in Figs. 4–5. Abdomen length/width 1.09.

Female. Carapace length/width 1.25 (1.21–1.25); MOA length/width 0.88 (0.86–0.88), anterior width/posterior width 0.88 (0.86–0.88). Chelicera with 4 promarginal and 3 retromarginal teeth. Labium length/width 0.73 (0.73–0.79); sternum length/width 1.09 (1.06–1.09). Length of leg I/carapace 3.78 (3.78–3.96). Abdomen length/width 1.25 (1.25–1.32). Epigynum as shown in Figs. 2–3.

Coloration and markings. Male and female (Fig. 1): Carapace reddish brown, cephalic region pale yellow. Legs pale brown with dark brown annulation. Abdomen dark brown mottled with pale brown, with pale yellow markings.

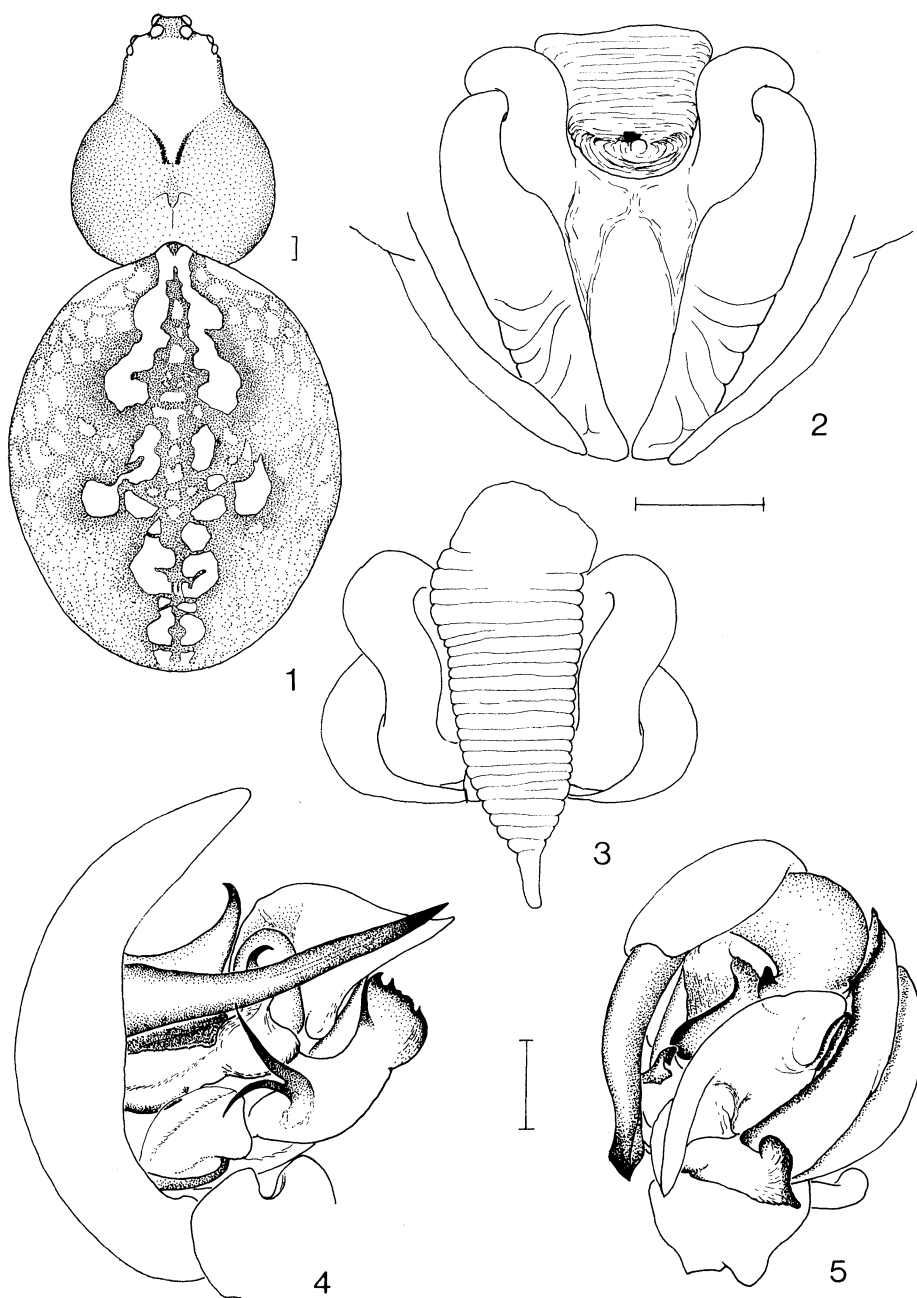
*Range.* Japan (known only from the type locality).

*Remarks.* This new species closely resembles *Aculepeira carbonarioides* (KEYSERLING, 1892), but can be distinguished from the latter by the shape of the conductor of the male palp (Figs. 4–5; LEVI, 1977, figs. 171–172).

*Etymology.* The specific name is given after Ms. Mayumi MATSUDA, Hokkaido.

## 摘 要

北海道鹿追町東スブカウンスプリの岩塊地から得られた標本に基づいて、*Aculepeira* タカネオニグモ属 (新称) の1新種を *Aculepeira matsudae* マツダタカネオニグモ (新称) と



Figs. 1–5. *Aculepeira matsudae* sp. nov.—1. Cephalothorax and abdomen of female, dorsal view (paratype, NSMT–Ar 3185). 2. Epigynum, posterior view (paratype, NSMT–Ar 3186). 3. Same, ventral view (paratype, NSMT–Ar 3186). 4. Male left palp, mesal view (holotype, NSMT–Ar 3184). 5. Same, ventral view (holotype, NSMT–Ar 3184). (Scales: 0.25 mm.)

命名して記載した。本種は *Aculepeira carbonarioides* (KEYSERLING, 1892) に似ているが、雄の触肢の形態によって見分けることができる。本属のクモ類はこれまで日本からは未記録であった。本種の基準産地は岩塊流に相当し、溶岩岩塊からなる累石風穴が見られる。このため、亜高山帯にもかかわらず高山帯の植物群落が混在する風穴植生が成立しており、極めて特異的な環境である。

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